

REMARKS

Status of Application

Claims 1-21 are pending in the application.

Claim 19 has been amended.

New claims 20 and 21 are added.

The Office Action

In the Office Action mailed July 29, 2004, claims 1, 3, 4, 6-11, and 13-19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Egbert, et al. (WO 02/056,705, pp. 2, 5, 7, 9-11, 13, and Example 6).

Claims 2, 5, and 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Egbert, et al., and further in view of Kamada, et al. (U.S. Patent No. 6,270,830).

Claims 1-19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kamada, et al. For the reasons outlined below, it is submitted that all pending claims are in condition for allowance.

Claim 1 recites a composition for treating a meat product. The composition includes, expressed by weight of the total weight of solids, about 5 to 50 pbw phosphate, about 5 to 70 pbw protein compound, about 5 to 50 pbw of a carrageenan, and a hydrocolloid other than carrageenan in an amount of about 1 to about 15 pbw. Support for new claims 20 and 21, which require about 15 to 35 pbw carrageenan and at least 20 pbw carrageenan, respectively, is to be found in the specification at paragraph [0021].

The references do not suggest such a composition. Egbert discloses a method of altering textural properties of a food product using an acidic phosphate and one or more of starches, wheat gluten, flour, xanthum gum, locust bean gum, carrageenan, pectin, and guar gum. A composition containing 4% sodium acid pyrophosphate, about 1.5% carrageenan, and about 94.5% soy protein concentrate is disclosed. The composition is thus largely soy protein. Egbert does not disclose or suggest using a composition containing carrageenan in an amount that would fall within the claims of the present invention. Indeed, Egbert, et al. specifically discloses providing a composition comprising 0.5%-2.5% carrageenan. Egbert's composition is used largely as an extender. The best properties, according to

Egbert, were obtained in Example 2 from Sample 5 containing 1% carrageenan. A person skilled in the art, reading Egbert, would therefore be motivated to use substantially less carrageenan than the maximum 2.5% disclosed by Egbert. Thus, Egbert, et al. teaches against using carrageenan in an amount that would fall within the claims of the present invention. To arrive at a composition according to the present invention, a person of ordinary skill in the art would have had to use twice the maximum amount of carrageenan disclosed by Egbert, et al.

The present applicant has unexpectedly found that the incidence of developing pale, soft, and exudative characteristics in meat (referred to as PSE meat) can be reduced by treating meat with a composition including carrageenan present in an amount of at least 5 parts by weight. It is submitted that it would require rather more than routine experimentation suggested by the Examiner to ignore the direct teaching of Egbert and use an amount of about 5 parts by weight carrageenan, or more.

Kamada, et al. is directed to a stabilizer for food containing fine cellulose and a gelling agent. These are the only key components of the stabilizer disclosed in Kamada, et al. Carrageenans are included among the list of suggested gelling agents. As for other components, Kamada, et al. states that the inclusion of other components, usable in foods, in the composition is "arbitrary," (see paragraph [0015]). For example, as clearly illustrated in Examples 2-5, the majority of the compositions disclosed in Kamada, et al. do not contain any phosphate compounds. While Example 1 of Kamada, et al. does disclose a composition containing a phosphate compound, this composition would not fall within the claims of the current invention. As detailed in paragraph [0041], the composition in Example 1 of Kamada, et al. contains 22.25 parts by weight of solids, the balance water. The solids contain one part by weight of composite A, which is a 40-60 ratio of cellulose to τ -carrageenan. Thus, this composition contains τ -carrageenan in $(0.6/1.0)/22.25 \times 100 = 2.69$ parts by weight, based on the total weight of the solids in the composition. Therefore, in common with the disclosure of Egbert, et al., Example 1 of Kamada, et al. discloses compositions containing substantially less than the minimum amount of carrageenan presently claimed.

Furthermore, Kamada, et al. contains no teachings that would lead a skilled person to arrive at a composition according to the claims of the present invention. Indeed, the disclosure that the presence of components other than cellulose and a

gelling agent is "arbitrary," along with Examples 2-5, would, we submit, actually lead a skilled person away from the present invention. The Examiner has suggested that the teachings of Egbert, et al. combined with Kamada, et al. would render the composition obvious. However, it is submitted that the combination of Egbert, et al. with Kamada, et al. would not lead to a composition according to the claims of the present invention. Nor, does Kamada, by itself, render such a composition obvious. Rather, the disclosure of Example 1 of Kamada, et al. reinforces the teachings of Egbert, et al. that carrageenan should not be used in an amount of about 5 parts by weight or greater, but should be used in amounts substantially less than 5pbw.

Accordingly, it is submitted that claim 1, claims 2-10, and claims 20-21 dependent thereon distinguish over the references of record.

Claim 11 recites a brine composition comprising water, about 5 to about 50 pbw of a phosphate compound and about 5 to about 50 pbw carrageenan.

Neither Egbert nor Kamada suggests such a brine composition. Both of these references teach that carrageenan should be present in amounts substantially less than 5pbw.

Accordingly, it is submitted that claim 11 distinguishes over the references of record.

Claim 12 recites a composition consisting essentially of an alkali metal chloride salt, about 5 to about 50 pbw of a tripolyphosphate compound, about 5 to about 70 pbw isolated soy protein compound, about 5 to about 50 kappa carrageenan, and about 1 to about 15 pbw of a hydrocolloid other than carrageenan.

Neither Egbert nor Kamada suggests such a composition. Both of these references teach that carrageenan should be present in amounts substantially less than 5pbw.

Accordingly, it is submitted that claim 12 distinguishes over the references of record.

Claim 13 recites a process of treating meat to reduce the occurrence of pale, soft, and exudative characteristics in the meat which includes applying to the meat a brine solution comprising water, an alkali metal chloride salt, about 5 to about 50 pbw polyphosphate, and carrageenan in an amount of about 5 to about 50 parts by weight based on the total weight of the solids in the composition.

Neither Egbert, et al. nor Kamada, et al, alone or in combination recognize that a brine solution comprising about 5 to about 50 parts by weight carrageenan in the presence of polyphosphate reduces PSE characteristics in meat. Both references teach using substantially less carrageenan, if at all.

Accordingly, it is submitted that claim 13, and claims 14-17 and 19 dependent therefrom, distinguish over the references of record.

Claim 19 recites contacting meat with a treatment solution comprising water; an alkali metal chloride salt, about 5 to about 50 pbw phosphate compound, and about 5 to about 50 pbw of a carrageenan for a period of time effective to reduce an average freeze/thaw loss to less than 10%.

Egbert and Kamada do not suggest reducing freeze/thaw loss by treating meat with a solution comprising a phosphate and about 5 to about 50 pbw of a carrageenan. Accordingly, it is submitted that claim 19 distinguishes over the references of record.

CONCLUSION

For the reasons detailed above, it is respectfully submitted all claims remaining in the application (Claims 1-21) are now in condition for allowance.

Respectfully submitted,

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